Commodity Spotlight

National Corn Growers Association

Large U.S. Corn Supply, Sluggish Export Prospects Pressure Prices

U.S. corn farmers, now wrapping up the second-largest harvest in history, face weak prices in 1998/99, a situation reflected in most other commodity markets. A large increase in the supply of corn is expected to outstrip the rise in demand, pushing carryout stocks to the highest since 1992/93 and keeping downward pressure on prices.

Although domestic use of corn will rise to a new record, only a small recovery in U.S. exports is likely. Global import demand is weak, despite low prices, because of economic and financial problems in several regions of the world. U.S. corn exports, while forecast to increase from the depressed performance of 1997/98 because of declining competitor shipments, will remain comparatively low. U.S. market share of world exports is projected at 68 percent, up from 60 percent in 1997/98 but below the 74-percent average of the previous 10 years.

Low prices and the abundant supply of corn will fuel continued gains in domestic disappearance in 1998/99. Total U.S. use is forecast at 7.7 billion bushels, up 3 percent from the 1997/98 record, as both feed and residual use and food, seed, and industrial use expand. While low corn prices will benefit all end-users, the demand response to low corn prices will be tempered in some cases by low prices for users' products such as meat.

Production & Yield in 1998 Is Second Highest

Corn production is forecast at 9,836 million bushels, up 5 percent from 1997 and second only to the 10.1-billion-bushel crop of 1994. Because of higher carryin stocks, corn supply for the 1998/99 marketing year will be slightly larger than in 1994/95 and the largest in 11 years.

Planted area rose about 1 percent to 80.8 million acres, the highest since 1985, despite strong competition from soybean plantings, which reached a record high. Despite concerns at planting time about potentially weaker markets, uncertainty about weather ran higher than usual. Questions about whether the El Niño weather pattern might result in severe heat and drought stress similar to what hit the Midwest in 1983 and in some other El Niño years caused some growers to see at least an outside chance for a sharp spike in prices.

Average yield of corn in 1998 is forecast at 133.3 bushels per acre, slightly above the long-term trend. This would be the second-highest yield behind 1994, when yields reached 138.6 bushels. The growing season turned out reasonably well for most of the Corn Belt, although there was considerable variability—as in most years—with numerous reports of localized problems, stemming largely from excessive moisture. Impressive yield gains occurred in much of the northern and western tier of the Corn Belt, and record crops are forecast for Kansas, Nebraska, Minnesota, South Dakota, and North Dakota.

Corn crops in Texas and several smaller corn-producing States across much of the South, however, were decimated by heat and drought. Some of the corn also was contaminated by aflatoxin, preventing or severely limiting the corn's use for processing or animal feeding. Forecast output in Texas is down about 30 percent from last year and will be the smallest crop since 1991. The national impact is limited because the region produces a relatively small share of the total crop.

This year has been another demonstration of the corn sector's strong productivity growth, even when conditions are imperfect. Although the path has been erratic due to droughts and other weather disruptions in some years, corn yields have advanced impressively over the last few decades. Since the early 1960's, average U.S. yield has doubled, with underlying trend growth of about 1.7 to 1.8 bushels per year. Improved genetics account for about 60 percent of the gains, according to industry sources. Seed companies are continually upgrading and replacing hybrids. The recent introduction of Bt corn has reinforced yield gains by reducing losses caused by the European corn borer (*AO* August 1998).

Food, Seed, & Industrial Use To Continue Strong

The generally favorable outlook for economic growth in the U.S. is expected to support gains in most industrial uses of corn, such as starch used in building

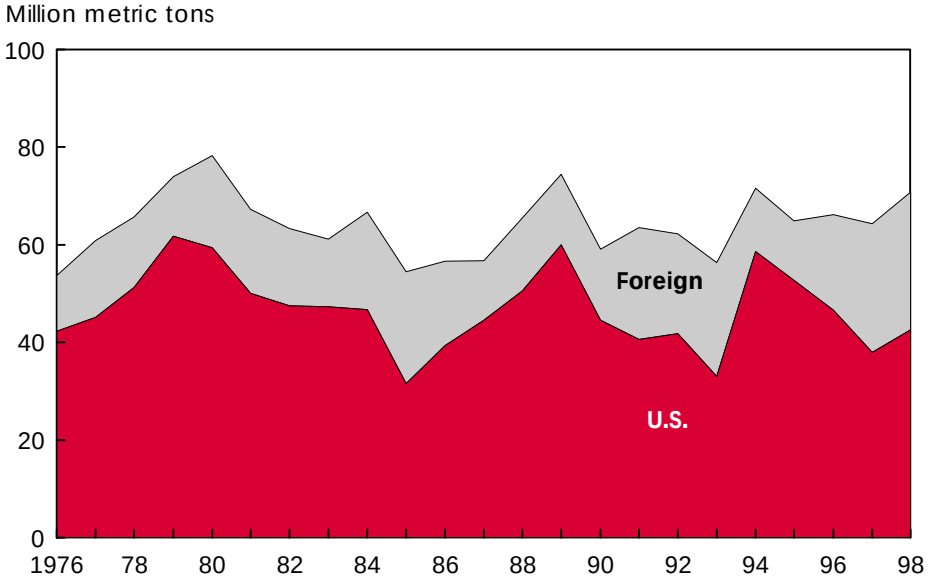
materials and in production of paper. Population growth and taste preferences are driving much of the growth in food use of corn, including the upward trend in corn used for snack foods. Food, seed, and industrial use of corn (FSI) is forecast to increase 4 percent from the 1997/98 record to 1,850 million bushels, reflecting fairly steady growth in most categories.

Gains in some categories of use often reflect substitution for other ingredients. For example, increased use of corn sweeteners in recent years has been the result of the popularity of fat-free foods, in which corn sweeteners help to provide taste to compensate for loss of the fat. This particular use seems to be flattening and may contract slightly as some fat-free formulas are discontinued. High-fructose corn syrup (HFCS) use expanded dramatically in the 1980's as it replaced sugar in many soft drinks, and growth has remained strong in the 1990's as consumption of soft drinks and other beverages continues to increase. Corn used to make beverage and manufacturing alcohol is expected to show a small decline in 1998/99, reflecting a downturn in the export market. This stems mainly from economic problems in Russia.

The use of corn for fuel alcohol (ethanol) is forecast to grow 8 percent in 1998/99, a slower rate of gain than the 12 percent in 1997/98. Since the sharp decline in 1995/96, when corn shortages and record-high prices curtailed ethanol production and led to some plant shutdowns, use has been rebounding. A number of smaller plants have opened recently, and output in 1998/99 is expected nearly to equal the peak year of 1994/95.

For some ethanol producers, current low corn prices are resulting in very favorable margins, especially where production is contracted for oxygenate use. However, ethanol prices in spot markets are low because of the influence of cheap gasoline and petroleum products. This could limit ethanol's use as an octane booster, as well as provide competition in some oxygenate markets. In addition, prices of the main ethanol co-products are weak. These include corn gluten feed and meal and distiller-dried grains, whose prices have been pulled down by large competing supplies of soybean meal and other protein sources used in animal feed.

U.S. Corn Exports Dominate World Trade



Marketing year beginning October. 1998 forecasts.
Economic Research Service, USDA

Large Livestock Production To Sustain High Feed Demand

With declining prices for corn and other grains, along with a dramatic fall in the price of protein meal, feed costs are down sharply. Large production of livestock, particularly hogs and broilers, combined with low feed prices, will keep feed demand high. However, record meat supplies and some clouds on the export horizon have resulted in low prices for red meats, which could temper the benefits of low feed prices and eventually limit expansion by some livestock operations.

Corn feed and residual use is forecast at 5,850 million bushels, up 3 percent from the previous year's record high. Supporting the increase are a sharp decline in availability of grain sorghum for feed, along with an expected decline in the feeding of wheat, which was up in the summer months of 1998.

The cattle sector is in a liquidation phase, and the total number of cattle, as well as cattle on feed, will decline in the year ahead. In the near term, however, delayed marketings (as producers await higher prices) and cheap feed have resulted in feeding cattle to heavy weights, supporting high corn use.

Expansion in the poultry sector will also contribute to growth in feed use. Egg production is expected to increase 2 percent in 1999, and turkey output should remain about unchanged after declining more than 4 percent in 1998. Broiler production is forecast to increase 5 percent in 1999, following lackluster growth of less than 2 percent in 1998. Broiler prices have been very strong throughout the summer and fall, supported by the fast-food industry's robust demand for breast meat, and low feed prices have meant excellent margins on broilers.

The export outlook is a concern, however, and broiler prices are expected to soften as the pace of exports slows. U.S. poultry exports are expected to decline in 1999, the first drop since 1984.

In September 1998, hog producers planned further expansion in the months ahead, despite low prices. Pork production in 1999 is expected to be up 3 percent from 1998 and up nearly 13 from 1997. Very large inventories will contribute to high feed needs. Export growth has continued strong in 1998, boosted by

Commodity Spotlight

China: Uncertain Player in the World Corn Market

In 1994/95, U.S. corn exports got a strong boost when China switched in a matter of months from being a large exporter to a large importer of corn. Many analysts saw this as marking a long-term turnaround in China's trade status. Although China is the world's second-largest producer of corn, its vast population, limited agricultural land, and a sharp rise in livestock and poultry production and consumption were expected to keep China dependent on imports to meet growing demand for feed grains. This may still be an accurate appraisal for the long run, but in the short run a different scenario has developed. China resumed significant exports of corn in 1996/97, and its imports have since shrunk to very small levels.

In the early 1990's, strong income growth and improving diets led to rapid growth in feed use. Not only did consumption growth outstrip production, but distribution within China also presented problems. The bulk of the population and of meat production are in southern China, while most surplus corn is produced in the northeast. An overburdened transportation network could not always keep up with demand for transferring northeastern corn to southern livestock producers.

By 1994/95, at a time of high inflation and rising grain prices, the government of China decided to allow corn imports and halt exports. Corn imports soared to 4.3 million tons from zero the previous year. Much of the corn was destined for joint-venture feed operations established through foreign investment.

In the same year, China's corn exports declined to 1.4 million tons from 11.8 million the previous year. On a year-to-year basis, the increase in imports and drop in exports meant a net trade shift of 14.7 million tons (579 million bushels). Most of this change benefited the U.S. The spurt in U.S. exports that year and expectations that China would remain an importer helped to drive up U.S. and world corn prices.

China's large imports ended by the latter half of 1995/96. By that time, U.S. and international corn prices had risen to record highs, making imports less attractive. Perhaps more importantly, China's government made a concerted effort to raise domestic corn production by implementing a new program, the governors' grain responsibility system, which aimed at attaining self-sufficiency in grain.

Although China's corn output had been trending upward for many years, the growth rate accelerated in 1995/96. Acreage increased as free-market prices rose and the government raised protection and fixed-quota prices. With favorable weather, yields increased and production reached a record. Acreage and yields rose again in 1996/97, leading to a further 14-percent gain and a record 127-million-ton crop.

While the grain sector had been liberalized to a considerable extent over the previous years, there were still strong administrative measures taken to encourage corn output, apparently using the network of local government officials and cadres. These efforts contributed to larger plantings, greater use of improved seed, and improved cultivation practices as more "scientific methods" were adopted.

With record harvest and large supplies, market prices for corn began to fall. In 1997/98, corn plantings dropped, and combined with a serious drought resulted in a large decline in production. Nevertheless, the huge accumulated stocks permitted another increase in exports.

During the 1997/98 marketing year, USDA's forecasts for China's corn were unusual in that production was reduced in response to the drought while export forecasts were raised in response to sales and shipment data. The critical unknown was the size of China's corn stocks, since information on China's grain stocks is considered a state secret.

low prices and by sales of lower value cuts. Since the September survey of farrowing intentions, hog prices have continued to decline to the lowest level since the early 1970's. However, sow slaughter rates have not increased substantially.

In contrast to most meat prices, milk prices have been very strong in recent months, and these price signals are expected to lead to an increase in milk production in 1998/99. Although no increase in milk cow numbers is anticipated, milk per cow should be up, strengthening feed use.

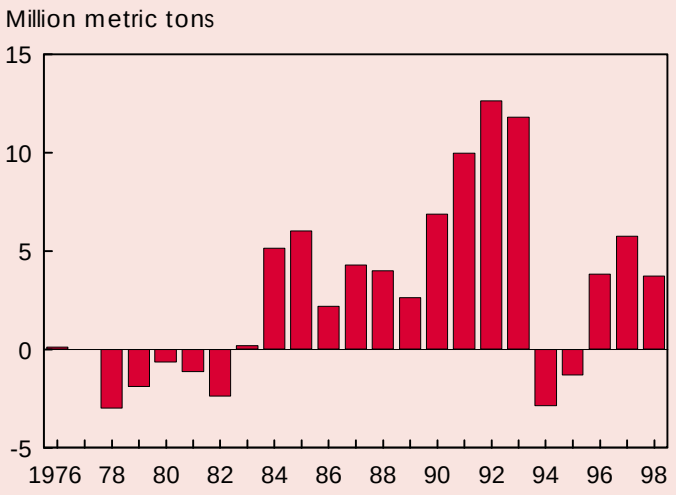
Corn Prices To Be Lowest Since 1987/88

Corn prices began a steep descent during the latter half of the summer and are likely to remain weak in the months ahead, reflecting supply and demand developments in the corn market and the generally weak price outlook for most other crops. Carryin stocks of corn for 1998/99 are up 48 percent from a year earlier to 1,308 million bushels, and stocks are projected to increase for the third consecutive year. The projected carryout of 1,779 million bushels will be the highest since the 2,113 million in 1992/93.

The season-average farm price of corn in 1998/99 is forecast at $1.80-$2.20 per bushel. The midpoint of this range would be the lowest since $1.94 recorded in 1987/88. The lowest corn price so far in the 1990's is $2.07 in 1992/93, a year that saw a record crop, record domestic use, sluggish exports, and very large stocks—somewhat similar to the 1998/99 outlook.

However, under provisions of the 1996 Farm Act, the production flexibility contract (PFC) payments most farmers will receive from the government this season will average 37 cents per payment bushel. In addition, farmers will receive 50 percent of their 1997/98 PFC payment under

China's Net Corn Exports Rebound



Marketing year beginning October. 1998 forecast.
Economic Research Service, USDA

Livestock production in China has also apparently been overestimated, reflecting some analytical issues associated with estimates for a large sector that includes substantial backyard production, as well as anomalies such as double counting of animal slaughter and inflated output statistics reported by local officials (*AO* November 1998). Recognition of this overestimation, coupled with a recent slowing in meat consumption growth, is consistent with other indications that feed grain supplies are large.

An underlying issue hampering outside analysts' understanding of the feed grain situation in China is the dominant role of the central government in the grain sector. The government makes all decisions on corn and other grain exports, which are implemented by COFCO, a state firm that acts as an agent. The criteria that guide export decisions are not always clear.

Corn imports are also controlled, allowing for the current situation in which international prices for corn are currently below local prices in much of China, but imports remain very small. Imports are allowed only under quotas assigned by the government and are permitted only if the purchasing enterprise or firm in China re-exports a finished product. Such finished products include starch and other processed corn products, but not meat from livestock fed on imported corn.

Last spring, the government of China announced a number of reforms aimed at eliminating costly subsidies and reducing the heavy financial losses the central government has incurred in managing the purchase, storage, and transportation of grains. The new policy includes a prohibition on sales of grain by state grain enterprises below cost. Also, the government wants farmers with fixed quota prices to sell all of their marketable grain to state-owned Grain Bureaus, effectively creating a monopsony buying situation. These reforms seem likely to obscure the role of price signals local markets have provided, and they could reverse the recent movement toward greater market orientation.

For more information on China's grain policies, see "China's Grain Reforms of 1998" in the November 1998 Grain: World Markets and Trade *(Foreign Agricultural Service, USDA) at http://www.fas.usda.gov/grain/circular/1998/98-11/dtricks.htm*

loss assistance announced by USDA in late October. For corn, PFC payments averaged 49 cents per bushel in 1997/98. Many producers may also receive payments under disaster assistance programs.

Another program available to farmers in the corn market this year is loan deficiency payments (LDP's). Farmers can receive an LDP when the posted county price for corn (which is usually in line with the local cash price) falls below the county loan rate (*AO* October 1998). Many farmers have taken the LDP this fall and then apparently put corn into storage because prices have been low. But storage space is limited in many areas because of large supplies, and if an LDP is taken, the corn is not eligible for the government loan program.

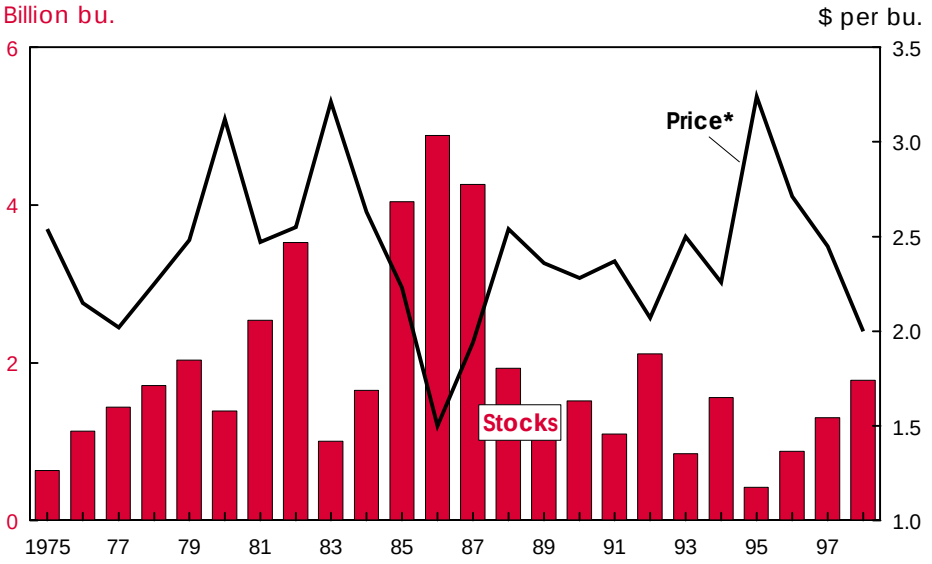
Another uncertainty is the seasonal price pattern. Corn prices typically bottom out around the harvest months of October and November and then climb slowly until mid-summer. Prices in 1997/98, however, deviated from the normal seasonal pattern. Prices were highest over the first half of the marketing year and then declined as demand weakened and new-crop prospects improved. This year, the futures market would indicate high enough contract prices in the months ahead to cover storage costs for many producers. But if too many farmers hold corn early in the year, providing some support to prices by keeping cash markets relatively tight, there is risk that heavier sales later in the year could depress prices unless demand is very strong.

Moderate Rise Projected For U.S. Exports

Although global corn trade is expected to decline for the second year in a row, U.S. exports will rise as other exporters reduce shipments. Following a steep decline over the previous 2 years, U.S. exports in 1998/99 are forecast at 1,675 million bushels, 11 percent over the previous year.

Commodity Spotlight

U.S. Corn Prices Drop As Stocks Build



Market year beginning September. 1998 forecasts; price is midpoint of forecast range.
*U.S. season-average farm price.

Economic Research Service, USDA

World trade is forecast to drop 2.5 percent in 1998/99 to 62 million tons, the lowest since 1993/94, because of sluggish demand in several key importing countries, increased domestic production in others, and competition from feed wheat, rye, and barley in some markets. In many cases, reduced incomes are limiting importers' response to low feed grain prices, and low meat prices in several meat exporting countries are also making meat imports an attractive option. In countries where financial problems are severe, consumers are cutting back on meat purchases.

Japan's corn imports are forecast to slip to the lowest since the mid-1980's. Japan is the largest importer and by far the largest U.S. market. While industrial use of corn is steady, the major use is for feeding, which has been inching down for several years as Japan's meat imports have risen.

South Korea, the world's second-largest importer, is forecast to reduce its corn imports again, down 13 percent to 6.5 million tons because of the financial crisis and large imports of feed wheat. In addition, imports by Taiwan, the third-largest importer, are forecast to be flat at 4.5 million tons due to an outbreak of hoof-and-mouth disease in 1997 that reduced hog inventories. Imports were around 6 million tons before the outbreak.

Corn imports by Southeast Asian nations in aggregate are not expected to show much change. The major corn buyer in the region, Malaysia, which has essentially maintained its poultry sector, is forecast to increase imports slightly to 2.3 million tons. Indonesia will not import at all, after purchasing 600,000 tons of corn in early 1997/98 before the worst of the financial crisis hit. Because of a sharp drop in feed use, Indonesia actually exported 500,000 tons in 1997/98 and is expected to export again in 1998/99. Imports by the Philippines and Thailand, which are on a much smaller level, are forecast to decline slightly. Both countries are expecting substantially larger crops in 1998/99.

Corn use and import demand will continue very low in the Baltics and New Independent States of the former Soviet Union for the foreseeable future, although the U.S. announced in early November that it will provide Russia 500,000 tons of corn under concessional terms. As recently as 1991/92, annual imports were 10 million tons, but have fallen to around 500,000 tons in the last several years. The decline of the Soviet market was largely offset by growth in Asia and other developing regions.

Currently, the outlook for import demand remains reasonably strong in some other regions. Only a small decline is forecast for Mexico's corn imports, down 250,000 tons from the 4.5 million of 1997/98, remaining well above the minimum NAFTA import requirement of just under 3 million tons. Elsewhere in Latin America, corn imports are expected to stay fairly strong. Imports by North Africa and the Middle East are forecast to increase modestly, after dipping from the record 1996/97 high last year.

Export Competition To Slacken

Shipments by most foreign corn exporters are forecast to decline in 1998/99, bolstering U.S. export prospects. The sharp declines in U.S. exports in the last 2 years had resulted largely from rising competition. Foreign exports increased by 7 million tons (60 percent) in 1996/97 and by another 6 million (30 percent) in 1997/98 to a record 26 million tons. The increases reflected strong grower response to high prices, as well as favorable weather and changing policies in some countries.

Corn exports by Eastern Europe will decline about 30 percent in 1998/99 after a sizable drop in production. The region's exceptionally large crops in 1997/98 propelled exports to the highest level since the early 1990's. With domestic consumption still relatively low because of low livestock inventories, much of the production gain was exported to markets in the Middle East, North Africa, and even Asia.

The greatest decline in 1998/99 is projected for Argentina, where production and exports have soared in the last few years. A more stable economic environment has promoted investment in agriculture and improvements in infrastructure, leading to more use of modern inputs, particularly improved corn seed and increased application of fertilizer, pushing yields higher. Corn acreage increased modestly in the first half of the 1990's and then jumped nearly 30 percent in 1996/97, pushing production to a record

15.5 million tons as producers reacted to high corn prices.

Argentina's production climbed another 25 percent in 1997/98 to 19.3 million tons. Excellent weather—plentiful rains associated with the El Niño weather pattern—and continued gains in technology propelled yields well above the long-term trend. Despite recent growth, Argentina's domestic corn market is small, and most production gains move into export channels. Exports reached an estimated record 13 million tons in 1997/98.

In 1998/99, Argentine growers are expected to cut back corn acreage slightly, with prices for soybeans relatively more favorable. Corn production is forecast to decline about 20 percent in 1998/99. Average yield is expected to drop from the exceptionally high 1997/98 level, but is forecast the second highest on record due to continued growth in input use. Exports of corn will also fall, projected down 19 percent.

China's corn production in 1998 is forecast at 124 million tons, up 19 percent from last year's drought-reduced crop and the second highest ever. Corn acreage increased nearly 500,000 hectares, and yields are expected to be up sharply. Heavy summer flooding did not affect important corn growing areas, and the abundant moisture was beneficial for corn.

Growth in China's feed demand, having weakened in recent months, is not likely to recover to the torrid expansion of earlier years. Weaker pork and poultry exports and continued large imports of chicken parts into China are slowing feed demand, as is the slower growth in the economy and real per capita income. The price of pork, the main meat consumed in China, has declined sharply as consumers purchase less meat.

China's corn exports are forecast at 4 million tons, down from 6 million in 1997/98, but as always, there is a great deal of uncertainty in China's trade outlook. A large domestic crop and some slowing in domestic demand imply large exportable supplies. The need to make space for incoming crops has sometimes been cited as a reason for exports in recent years. It is conceivable that some old crop from 2 or 3 years ago, procured at much lower prices, could be exported if still in stocks and if storage costs were covered. However, low prices in export markets could hold back China's sales since new policies are supposed to prevent selling at prices under costs.

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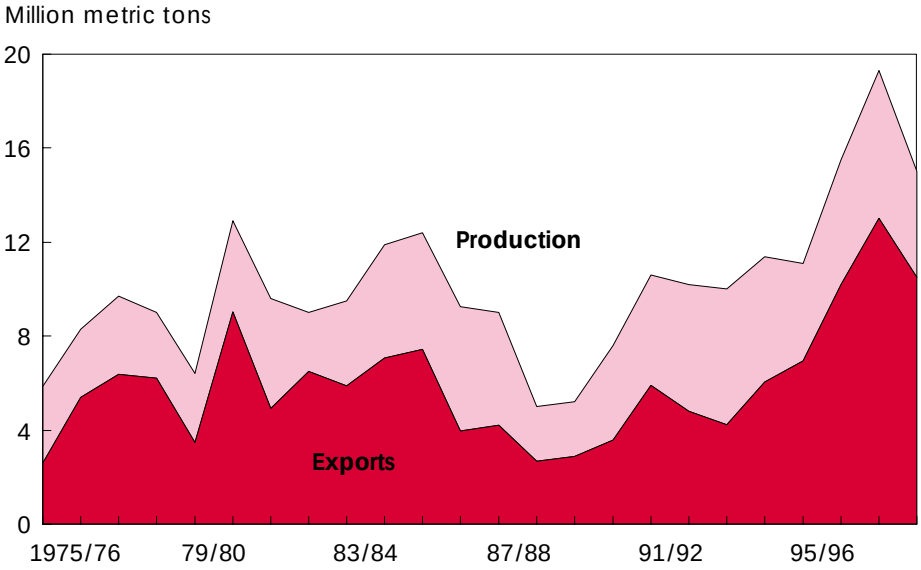
Argentina's Corn Production and Exports To Drop in 1998 After Recent Runup



1998/99 forecast. October-September for exports.
Economic Research Service, USDA